3D40 Clogged Heatsink Tube Replacement

⚠ WARNING **Read the Dremel 3D40 manual and these instructions before replacing a clogged heatsink tube in your Dremel 3D40. Failure to comply with the warnings and instructions may result in fire, equipment damage, property damage, or personal injury.**

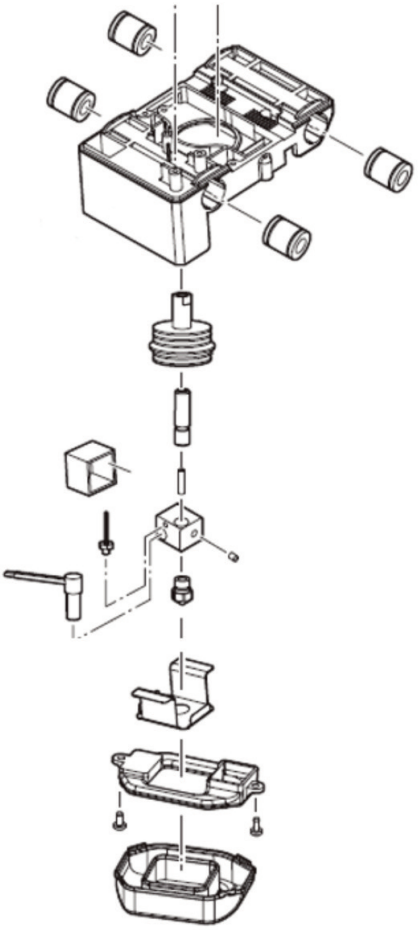
Always unplug Dremel 3D40 from its power before performing any service procedures. Failure to do so may result in personal injury and equipment damage.

Use only Dremel approved materials and components. Use of object materials, or 3D objects other than Dremel approved object materials and genuine Dremel components may void warranty.

Repairs on the Dremel 3D40 may require the use of special tools (pulling devices and bearing press). Authorized repair centers have trained repair technicians and equipment necessary to perform these repairs.

For the location of the repair center near you, please call 1-844-4DRML3D (1-844-437-6533) Monday thru Friday, 8AM to 6PM CST. Or, look on our web site at www.Dremel3D.com and follow the link for 'Support'.

CONTINENTAL UNITED STATES	CANADA
Dremel Service Center 4915 21st Street Racine, WI 53406 Phone: 1-844-4DRML3D	Giles Tool Agency 47 Granger Ave, Scarborough, ON M1K 3K9, Canada Phone:1-416-287-3000 West Coast Tool 4008 Myrtle Street Burnaby, B.C. V5C 4G2 Phone: 1-604-873-5394



PRE-SERVICE PREPARATION

⚠ CAUTION **Use proper anti-static precautions when performing this replacement.** Discharge static electricity before beginning. Work on a static-free surface.

This document will outline the steps necessary to clear a clog in the heatsink tube assembly caused by the filament bulging up inside the tube. If the filament becomes clogged, neither loading nor unloading will be possible. Tube clogging can occur by either using an old filament that's kept in the open for a longer duration or from 3rd party filaments with lower transition temperatures.

Tools Required:

- Scissors
- 2mm Hex wrench (Allen key)
- 2.5mm Hex wrench (Allen key)
- 3/32 inches Flathead screwdriver
- T10 Torx screwdriver (no longer than 4 inches)

Step 1: Bring Printer to Safe State for Service

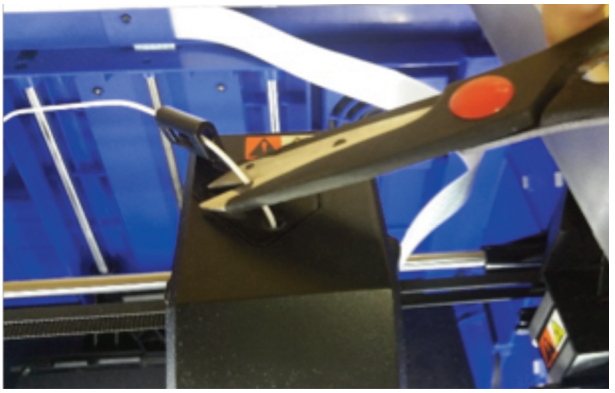
a. Turn on the printer, and verify that the temperature icon reads cool (blue). If it is not blue, allow adequate time for the nozzle to cool until the icon reads blue.

b. Turn off the printer.

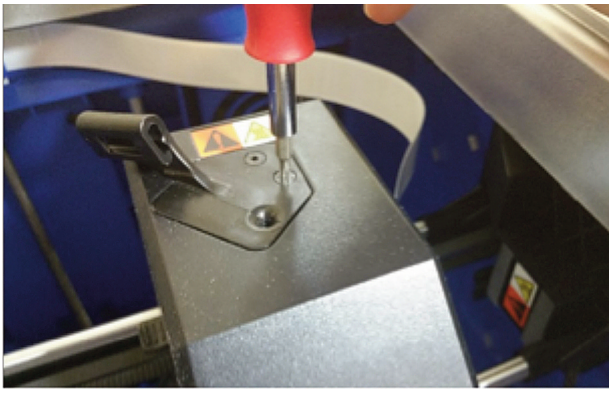
c. Unplug the printer.

Step 2: Remove Top Cover of Extruder

a. Cut the filament just before the intake on the top of the extruder.

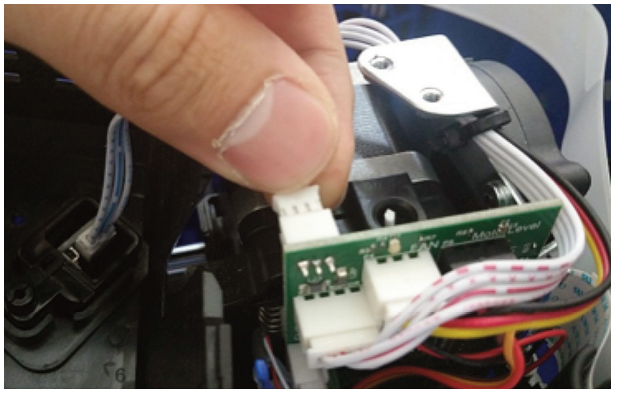


b. Unscrew the two screws on the top of the filament guide bracket.



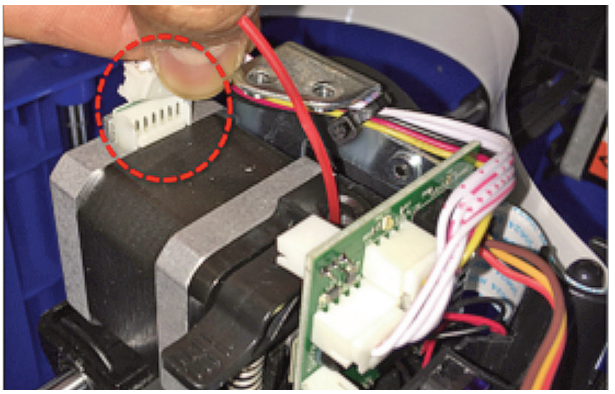
c. Remove the top cover.

d. Carefully unplug filament runout switch from the extruder circuit board, ensuring to pull from the plastic plug and not the wires; pulling the wires can damage the connection to the extruder. Please see picture below.

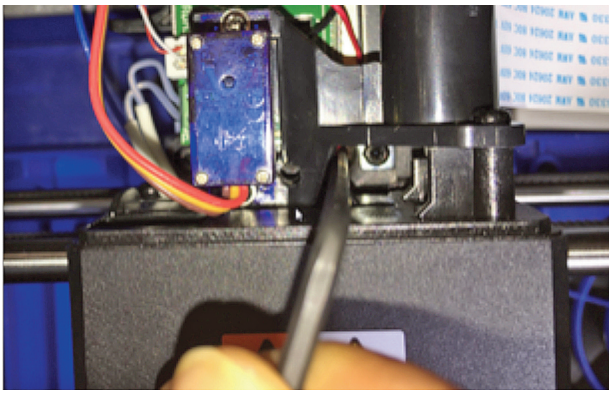


Step 3: Remove the Extruder Motor

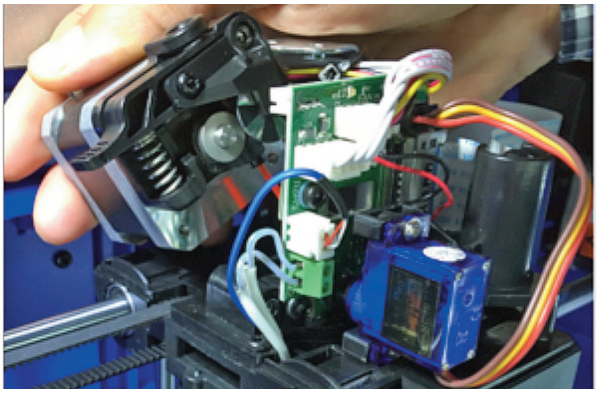
a. Disconnect the white extruder terminal block from the extruder connector as shown in the picture below. Ensure to grab the block and avoid pinching the wires.



b. Unscrew the two extruder screws as shown in the picture below. Please ensure that the screws once fully unscrewed, should still be left inserted in the extruder chassis hole.



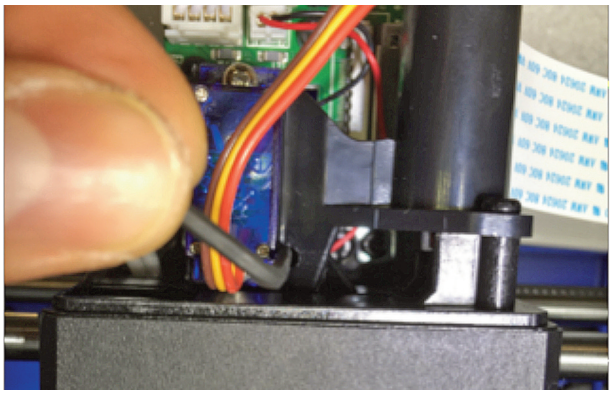
c. Pull the extruder away from the printer (vertically) as shown in the picture below.



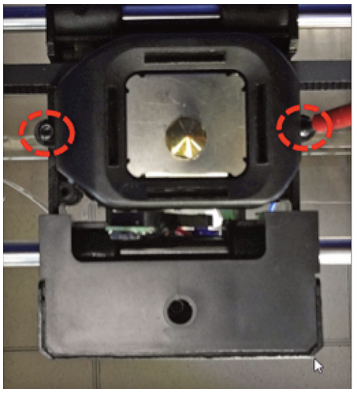
d. Cut the filament as close to the nozzle tube top as possible and dispose of that piece of filament.

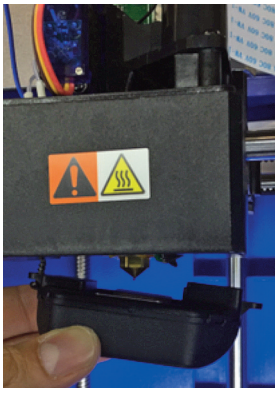
Step 4: Nozzle Assembly Removal

a. Unscrew the nozzle assembly screw with 2mm Hex wrench as shown in the picture below. Please ensure that the screw once fully unscrewed, should still be left inserted in the hole.

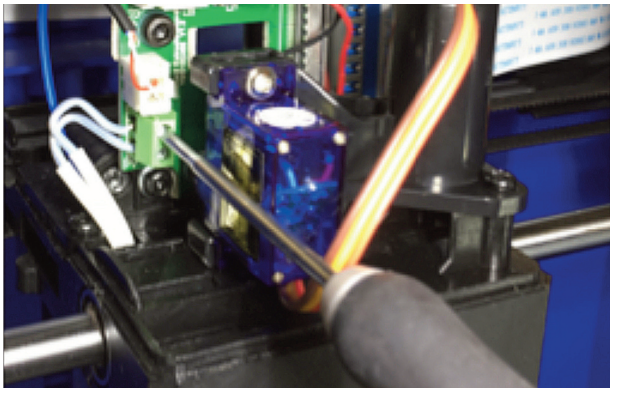


b. Unscrew the Torx screws that hold the fan baffle assembly and pull down the assembly as shown in the picture below.

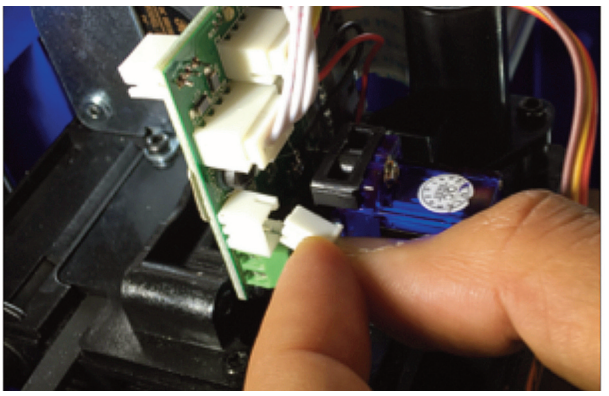




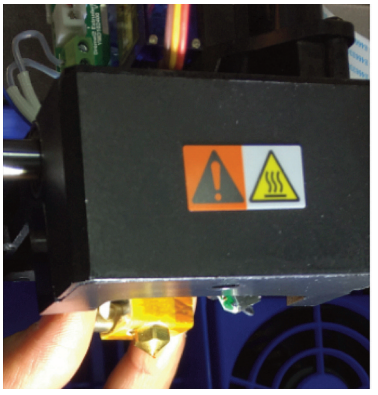
c. Use flathead screw driver to disconnect heater wires from extruder circuit board. Gently pull the wires out of the green terminal block.

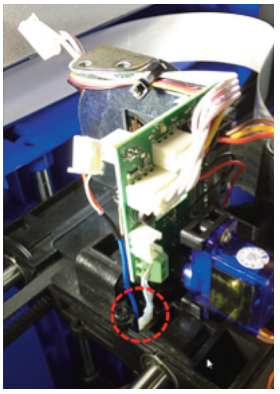


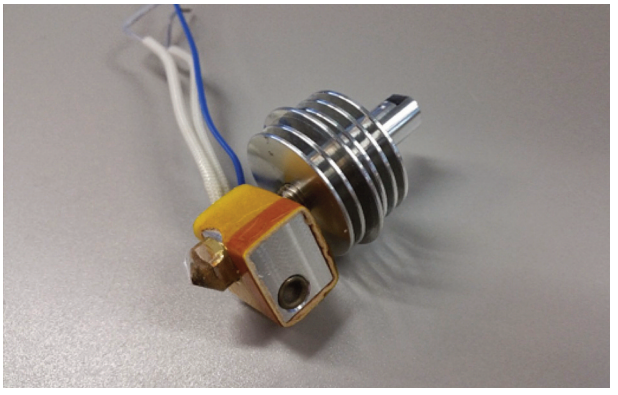
d. Unplug the thermocouple connector (white) from the extruder circuit board as shown in picture below.



e. Push down nozzle tube and pull from bottom. (Note: Ensure that sufficient time has been given for the nozzle to cool). Grab the block heater as shown in the picture to pull the nozzle assembly gently. Then, use your fingers to straighten any bent wires and pull straight down through the (encircled) cavity to remove the nozzle assembly as shown below.





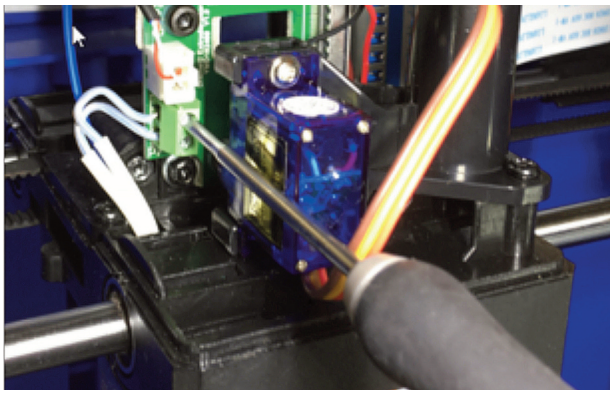


Step 5: Insert New Nozzle Assembly

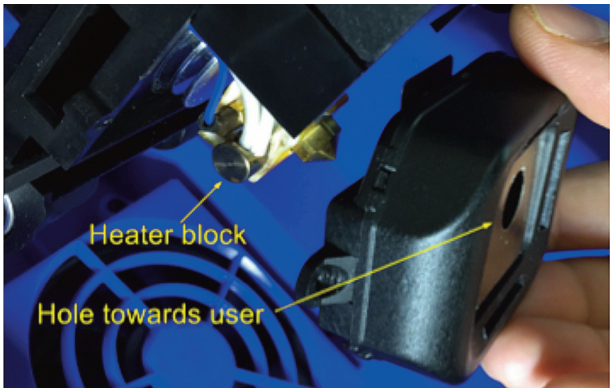
a. Route the heater and the thermocouple wires through the passage in the chassis as shown in the picture under Step 4e (see encircled).

b. Plug in the white thermocouple connector in the extruder circuit board. Refer picture under Step 4d.

c. Bend the white heater wires, insert in the terminal block and tighten the flathead screws as shown in picture below. Gently pull the wires to check if the wires are securely held in place.



d. Push the nozzle assembly in the extruder chassis hole such that the heater block is in the left hand side as shown in the picture. Lineup the air baffle assembly with extruder chassis, with the hole towards the user (front) as shown in the picture below.



e. Insert the fan baffle assembly and match the screw holes with the holes on the chassis. Screw the 2 Torx screws to tighten the fan baffle assembly. Refer picture under Step 4b.

f. Tighten the nozzle assembly screw with 2mm Hex wrench as shown in the picture under Step 4a.

Step 6: Replace Extruder Motor

a. Place the extruder motor on the chassis. Extruder motor screw holes should line up with holes in the chassis.

b. Tighten the two hex screws with 2.5mm Hex wrench. Refer picture under Step 3b.

c. Plug in the white terminal block on the extruder connector as shown in picture under Step 3a (encircled).

Step 7: Replace Top Cover

a. Attach the filament runout switch wires of the cover to the extruder circuit board. Refer picture under Step 2d.

b. Place the new top cover over the extruder.

c. Replace the two 2mm screws onto the cover. Refer picture under Step 2c.

Step 8: Test the Machine

- Plug in and turn on the 3D40.
- Navigate to “Filament” and follow the on screen instructions to load filament.
- Build the “Test Print” file on the machine to ensure the 3D40 printer is working correctly.

Congratulations!
You are now ready to build. **Build On.**